

Am



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,687	02/25/2002	Alexander E. Andreev	01-956	2908
24319	7590	02/14/2005		
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			EXAMINER ROBINSON, GRETA LEE	
			ART UNIT 2167	PAPER NUMBER

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,687

Applicant(s)

ANDREEV ET AL.

Examiner

Greta L. Robinson

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-32 are pending in the present application.
2. Claims 1, 14, and 21 have been amended.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colbrook et al. Algorithms for Searching Trees on Message Passing Architectures in

Art Unit: 2167

view of Dixon et al. US Patent 4,464,718 and IBM Technical Bulletin entitled *Parallel Table Directed Translation*.

Regarding claim 1, Colbrook et al. teaches a system suitable for providing a search [note: abstract], comprising:

a central controller suitable for implementing search and edit operations [note: "a series of search, insertion and deletion operations executing in parallel" page 97]; and

at least one search engine communicatively coupled to the central controller [note: page 102 The Simulator; page 103 Implementation; and page 106 Design Alternatives];

wherein the central controller performs parallel execution of a search operation and an edit operation through utilization of a binary search tree and at least one search engine [note: "a series of search, insertion and deletion operations executing in parallel" page 97; also note network chip page 102].

Although Colbrook et al. teaches the invention substantially as cited above, they do not show a search engine. Colbrook et al. teaches concurrent search tree algorithms that manage contention and control concurrency. Dixon et al. teaches a search engine [note: search engine (controller 16) figure 1; abstract]. It would have been obvious to one of ordinary skill at the time of the invention to implement a search engine in order to make operative the programming features of Colbrook et al. Colbrook et al. nor Dixon explicitly teach a binary search engine. The IBM Technical Bulletin teaches a binary search tree able to handle concurrent and parallel transactions [note: IBM pages 2489-

Art Unit: 2167

2490]. It would have been obvious to one of ordinary skill at the time of the invention to have combined the cited references because prior art, Colbrook, teaches that various types of search engines may be used to perform parallel execution of a search and each reference is concerned with optimizing the execution of searches in parallel [note: Colbrook pages 97-98].

5. Regarding claims 2-13, wherein the central controller and at least one engine are coupled via a search connection, an edit connection, and a cache connection ... search engine includes priority controller ... manages access to memory ... [note: Colbrook et al. figures 1-7; Dixon et al. figure 1 and col. 4 lines 32-68].

6. Regarding claims 14-20, edit and search modules, note Colbrook et al. teaches implementation of various design implementations for the software search algorithms see page 97, 98, 102 and 106-10.

7. The limitations of claims 21-32 have been addressed above in claims 1-13 except for the following: search engines arranged in 0 through k levels [note: Colbrook search tree hierarchy for search algorithm page 97-101].

Response to Arguments

8. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2167

In the response Applicant argued the prior art of record does not teach a binary search engine as recited in amended independent claims 1, 14 and 21. Applicant also argued that there was no motivation to combine Dixon et al. with Colbrook. In response the examiner respectfully maintains the rejection. Dixon et al. and Colbrook et al. are both concerned with execution of a search in parallel. Colbrook et al. is concerned with implementing algorithms to optimize execution of a search in parallel in order for the search to be operative it would need a search engine, Dixon et al. depicts the search engine. Note newly cited reference IMB Technical Bulletin that discloses the use of a binary search engine.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Andreev et al. US Patent 6,553,370 B1

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

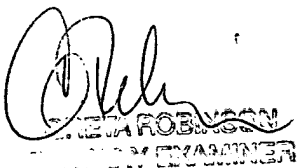
Art Unit: 2167

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greta L. Robinson whose telephone number is (571) 272-4118. The examiner can normally be reached on Mon.-Fri. 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greta Robinson
Primary Examiner

Greta Robinson
Primary Examiner
February 11, 2005